REMARKS

This Application has been carefully reviewed in light of the Office Action mailed June 13, 2005 ("Office Action"). In the Office Action, Claims 1-26 are pending in the Application and the Examiner rejects Claims 1-26. Applicants have amended Claim 8. Applicants submit that no new matter has been added with these amendments. As described below, Applicants believe all claims to be allowable over the cited references. Therefore, Applicants respectfully request reconsideration and full allowance of all pending claims.

Section 112 Rejections

The Examiner rejects Claim 8 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, the Examiner rejects Claim 8 because "[i]t is not clear as to what portion of the signal the 'data signal' in claim 8 is referring to (the ADSL data signal or the voice signal)." (Office Action, page 2). Applicants have amended Claim 8 to address the indefiniteness issues identified by the Examiner. Specifically, Claim 8 has been amended to recite "filtering the voice signal into a first frequency range of approximately zero to four kilohertz and filtering the data signal into a second frequency range of approximately 25 kilohertz to 1.1 megahertz." Applicants respectfully request reconsideration and allowance of Claim 8.

Section 103 Rejections

The Examiner rejects Claims 1, 3-6, and 11-17 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,236,664 issued to Erreygers ("*Erreygers*") with U.S., and further in view of Patent No. 6,088,385 issued to Liu ("*Liu*"). Applicants respectfully request reconsideration and allowance of Claims 1, 3-6, and 11-17 for the following reasons.

First, Applicants respectfully submit that the proposed combinations of references do not disclose, teach, or suggest each and every limitation recited in Applicants' claims. For example, Claim 1, as amended in the previous Response to Office Action, recites:

> A method for providing greater reach of a DSL signal comprising:
> receiving an incoming DSL signal including a data signal;
> demodulating the data signal;
> requantizing the demodulated data signal by conditioning the data signal to acquire underlying data in the data signal;
> modulating the requantized data signal;
> amplifying the modulated requantized data signal; and
> transmitting the amplified signal in a regenerated form.

In the previous Response to Office Action, Applicants argued that neither *Erreygers* nor *Liu* disclose, teach, or suggest "requantizing the demodulated data signal by conditioning the data signal to acquire underlying data in the data signal," as recited in Claim 1. Although the Examiner did not respond to Applicants' arguments in the previous Response to Office Action because of the new ground(s) of rejection, Applicants believe that Applicants' previous arguments continue to have merit. Thus, Applicants reiterates Applicants' previous arguments relating to the deficiencies of the *Erreygers-Liu* combination.

Specifically, Applicants submit that *Liu*[1] merely discloses a "high speed modem . . . that implements a scalable data rate ADSL link." (Abstract). The high speed modem "adjusts the data rate of an xDSL link by providing two time scaling factors M and M' in the receive and transmit directions respectively. (Column 5, lines 34-36). "These two factors are determined by estimating available signal processing power of a communications system to represent the fractional capabilities of the particular transceiver in question compared to a nominal full xDSL data rate implementation." (Column 5, lines

[1] In the Office Action, the Examiner continues to acknowledge that "*Erreygers* does not specify that the transceivers perform demodulating, requantizing, modulating, and then amplifying the data signal." (Office Action, page 3). Accordingly, Applicants have not included arguments discussing the acknowledged deficiencies of *Erreygers*.

36-41). Thus, scalability is determined based on the capability of the transceiver. To this end, the M and M' factors are determined prior to initiation of the link and "are communicated to an upstream transceiver during a hand-shaking procedure so that any data link established is data rate constrained to match the downstream transceiver's signal processing capability." (Column 5, lines 41-45). Accordingly, the system of *Liu* includes elements that allow "the characteristics (including the target data rate) of an ADSL link to be controlled based on the capabilities of the processing power of a host system that is responsible for implementing a software modem." (Column 1, lines 37-41).

In the Office Action and in response to the above arguments, the Examiner states that the "Examiner reads the demodulation of the data signal [in *Liu*] as 'conditioning the data signal to acquire underlying data' because the original data stream is recovered and used to requantize signal." (Office Action, page 4). Although the Examiner points to the output of DAC 230 as illustrated in Figure 2 as being the equivalent of a modulated and requantized DSL signal, Figure 2 is merely a block diagram used to illustrate the components of the *Liu* transceiver and does not explicitly include a component for performing requantizing. With respect to the detailed description, the Examiner does not provide any insight as to where Applicants' claim language is disclosed in *Liu*. Furthermore, with regard to the signal output from DAC 230, *Liu* discloses that DMT Tx Core 250 generates symbols, which are stored in Buffer 240 and "then converted to analog wave forms by DAC 230." (Column 7, lines 17-20). The generated symbols are merely M-1 copies of the transmitted signal that incorporate the scaling factor. (Column 7, lines 5-28). And, there is no disclosure that DAC 230 does anything more than perform a digital-to-analog conversion of the signal. Accordingly, neither the relied upon portions of *Liu* (the Abstract and Figure 2) nor the description relating to FIGURE 2 disclose, teach, or suggest "requantizing the demodulated data signal *by conditioning the data signal to acquire underlying data in the data signal*," as recited in Applicants' Claim 1.

For similar reasons, Applicants believe independent Claim 11 is allowable over the proposed *Erreygers-Liu* combination. As one example, neither *Erreygers* nor *Liu*

disclose, teach, or suggest "requantizing the demodulated data portion by conditioning the data portion to acquire underlying data in the data portion," as recited in amended independent Claim 11. As discussed above, the Examiner specifically relies on *Liu* for disclosure of the recited features. Because *Liu* merely discloses a "high speed modem . . . that implements a scalable data rate ADSL link" based on the capability of the processing system" (Abstract), Applicants respectfully submit that the proposed *Erreygers-Liu* combination does not disclose, teach, or suggest "requantizing the demodulated data portion by conditioning the data portion to acquire underlying data in the data portion," as recited in amended independent Claim 11.

With regard to independent Claim 16, Applicants argued in the Response to Office Action filed on July 27, 2004, that the rejection of Claim 16 is improper at least because the Office Action has failed to make a *prima facie* case of equivalence as required by M.P.E.P. § 2183 for any of the 35 U.S.C. § 112, paragraph 6 claim limitations. The M.P.E.P. states that "the examiner should provide an explanation and rationale in the Office action as to why the prior art element is an equivalent." With respect to Claim 16, the Examiner has merely stated that "*Erreygers* and *Liu* disclose the means (the transceiver) to perform the method of the claim 1 rejection." (Office Action, page 4). This statement does not provide, however, an explanation or rationale for any of the 35 U.S.C. § 112, paragraph 6 claim limitations of Applicants' Claim 16. For at least this reason, Applicants respectfully submit that Claim 16 is allowable. Favorable action is requested.

Dependent Claims 3-6, 12-15, and 17 depend from independent Claims 1, 11, and 16, respectively. Since Claims 3-6, 12-15, and 17 incorporate the limitations of their respective independent claims, which Applicants have shown above to be allowable, Claims 3-6, 12-15, and 17 are allowable for at least this reason. Additionally, Applicants respectfully submit that Claims 3-6, 12-15, and 17 also recite features that are not disclosed, taught, or suggested in the proposed *Erreygers-Liu* combination. Because Applicants have shown the independent claims to be allowable, however, Applicants have

not provided detailed arguments with respect to Claims 3-6, 12-15, and 17. Applicants remain ready to do so if it becomes appropriate.

Second, Applicants reiterate Applicants' previous arguments that it would not have been obvious to one skilled in the art to make the proposed *Erreygers-Liu* combination. With regard to the proposed combination, the Examiner speculates "it would have been obvious" to combine the transceivers disclosed in *Liu* with the repeater disclosed in *Erreygers* "for the purpose of implementing flexible and scaleable transceivers in the receiver that may have greater compatibility with various types of ADSL transceivers at either the CPE side or central office side of the network." (Office Action, page 4). The Examiner's conclusory statement, however, is mere speculation and does not provide the suggestion or motivation necessary to make the proposed combination. Since the Examiner has not provided a sufficient teaching, suggestion, or motivation in the prior art, the Examiner's conclusion of obviousness is improper under the M.P.E.P. and governing Federal Circuit case law. Because Applicants respectfully submit that the Examiner has merely used Applicants' claims as an instruction manual to piece together the repeater disclosed in *Erreygers* with the scalable transceivers disclosed in *Liu*, Applicants respectfully submit that the proposed *Erreygers-Liu* combination is improper and should not be used here to reject Applicants' claims.

For at least these reasons, Applicants respectfully request reconsideration and allowance of Claims 1, 3-6, and 11-17.

The Examiner rejects Claims 18-25 under 35 U.S.C. § 103(a) as being unpatentable over *Erreygers*, and in view of *Liu*, and further in view of U.S. Patent No. 6,658,049 issued to McGhee et al. ("*McGhee*"). Applicants respectfully request reconsideration and allowance of Claims 18-25 for the following reasons.

First and with regard to Claim 18, Applicants argued in the Response to Office Action filed on July 27, 2004, that the rejection of Claim 18 is improper at least because the Office Action has failed to make a *prima facie* case of equivalence as required by M.P.E.P. § 2183 for any of the 35 U.S.C. § 112, paragraph 6 claim limitations. Because the Examiner's rejection of Claim 18 remains the same and because the Examiner has not provided any explanation and rationale in the Office action as to why the prior art element is an equivalent, Applicants reiterate Applicants' arguments made in the previous Response to Office Action. For at least this reason, Applicants respectfully submit that Claim 16 is allowable. Favorable action is requested.

Second and with regard to Claims 19-25, Applicants respectfully submit that the proposed combination of references do not disclose, teach, or suggest each and every limitation recited in Applicants' claims. Claim 19 recites "the first conditioning circuit being operable to . . . demodulate, requantize, and remodulate the first data signal to produce a first remodulated data signal, the first data signal requantized to acquire underlying data in the first data signal." Claim 19 also recites "the second conditioning circuit being operable to . . . demodulate, requantize, and remodulate the second data signal to produce a second remodulated data signal, the second data signal requantized to acquire underlying data in the second data signal." Like the Examiner's rejection of Claim 1, the Examiner relies on *Liu* for disclosure of the recited features of Claim 19. As discussed above, however, *Liu* merely discloses a "high speed modem . . . that implements a scalable data rate ADSL link" based on the capability of the transceiver. (Abstract). Accordingly, for reasons similar to those discussed above with regard to Claim 1, Applicants respectfully submit that the recited features are absent from the disclosure of *Liu*.

Claims 20-25 depend from independent Claim 19. Since Claims 20-25 incorporate the limitations of independent Claim 19, which Applicants have shown above to be allowable, Claims 20-25 are allowable for at least this reason. Additionally, Applicants respectfully submit that Claims 20-25 also recite features that are not disclosed, taught, or

suggested in the proposed *Erreygers-Liu-McGhee* combination. Because Applicants have shown independent Claim 19 to be allowable, however, Applicants have not provided detailed arguments with respect to Claims 20-25. Applicants remain ready to do so if it becomes appropriate.

Third, Applicants reiterate Applicants' previous arguments that it would not have been obvious to one skilled in the art to make the proposed *Erreygers-Liu-McGhee* combination. With regard to the proposed combination, the Examiner speculates "it would have been obvious to . . . provide means to split/recombine/amplify the voice and data signals after being processed by the repeater for the purpose of allowing the repeater to be used on DSL lines that contain both data and voice signals." (Office Action, page 6). The Examiner's conclusory statement, however, is mere speculation and does not provide the suggestion or motivation necessary to make the proposed combination. Since the Examiner has not provided a sufficient teaching, suggestion, or motivation in the prior art, the Examiner's conclusion of obviousness is improper under the M.P.E.P. and governing Federal Circuit case law. Because Applicants respectfully submit that the Examiner has merely used Applicants' claims as an instruction manual to piece together the repeater disclosed in *Erreygers* with the scalable transceivers disclosed in *Liu* and the DSL repeater system of *McGhee*, Applicants respectfully submit that the proposed *Erreygers-Liu-McGhee* combination is improper and should not be used here to reject Applicants' claims.

For at least these reasons Applicants respectfully request reconsideration and allowance of Claims 18-25.

The Examiner rejects Claims 2, 7, and 8 under 35 U.S.C. § 103(a) as being unpatentable over *Erreygers*, and in view of *Liu* as applied to Claim 1, and further in view of *McGhee*. Applicants respectfully request reconsideration and allowance of Claims 2, 7, and 8 for the following reasons.

First, Claims 2 and 7 depend from independent Claim 1. Since Claims 2 and 7 incorporate the limitations of independent Claim 1, which Applicants have shown above to be allowable, Claims 2 and 7 are allowable for at least this reason. Additionally, Applicants respectfully submit that Claims 2 and 7 also recite features that are not disclosed, taught, or suggested in the proposed *Erreygers-Liu-McGhee* combination. Because Applicants have shown independent Claim 1 to be allowable, however, Applicants have not provided detailed arguments with respect to Claims 2 and 7. Applicants remain ready to do so if it becomes appropriate.

Second, Applicants reiterate Applicants' previous arguments that it would not have been obvious to one skilled in the art to make the proposed *Erreygers-Liu-McGhee* combination. With regard to Claims 2 and 7 and the proposed combination, the Examiner speculates "it would have been obvious to . . . recombine the voice and data signals after being processed by the repeater for the purpose of allowing the repeater to be used on DSL lines that contain both data and voice signals." (Office Action, page 7). The Examiner's conclusory statement, however, is mere speculation and does not provide the suggestion or motivation necessary to make the proposed combination. Since the Examiner has not provided a sufficient teaching, suggestion, or motivation in the prior art, the Examiner's conclusion of obviousness is improper under the M.P.E.P. and governing Federal Circuit case law. Because Applicants respectfully submit that the Examiner has merely used Applicants' claims as an instruction manual to piece together the repeater disclosed in *Erreygers* with the scalable transceivers disclosed in *Liu* and the DSL repeater system of *McGhee*, Applicants respectfully submit that the proposed *Erreygers-Liu-McGhee* combination is improper and should not be used here to reject Applicants' claims.

For at least these reasons Applicants respectfully request reconsideration and allowance of Claims 2, 7, and 8.

The Examiner rejects Claims 9-10 under 35 U.S.C. § 103(a) as being unpatentable over *Erreygers*, in view of *Liu* as applied to Claim 1, and further in view of U.S. Patent

No. 4,878,232 issued to Fisher ("*Fisher*"). Applicants respectfully request reconsideration and allowance of Claims 9-10 for the following reasons.

First, dependent Claims 9-10 and 26 depend from independent Claims 1 and 19, respectively. Since Claims 9-10 and 26 incorporate the limitations of their respective independent claims, which Applicants have shown above to be allowable, Claims 9-10 and 26 are allowable for at least this reason. Additionally, Applicants respectfully submit that Claims 9-10 and 26 also recite features that are not disclosed, taught, or suggested in the proposed combinations. Because Applicants have shown independent Claims 1 and 19 to be allowable, however, Applicants have not provided detailed arguments with respect to Claims 9-10 and 26. Applicants remain ready to do so if it becomes appropriate.

Second, Applicants reiterate Applicants' previous arguments that it would not have been obvious to one skilled in the art to make the proposed *Erreygers-Liu-Fisher* combination. With regard to the proposed combination, the Examiner speculates "it would have been obvious to . . . implement a resistive hybrid bridge for the bridge specified in *Liu* as a matter of design choice (for example, resistor, based circuits take up less space than inductors)." (Office Action, page 8). The Examiner's conclusory statement, however, is mere speculation and does not provide the suggestion or motivation necessary to make the proposed combination. Since the Examiner has not provided a sufficient teaching, suggestion, or motivation in the prior art, the Examiner's conclusion of obviousness is improper under the M.P.E.P. and governing Federal Circuit case law. Because Applicants respectfully submit that the Examiner has merely used Applicants' claims as an instruction manual to piece together the repeater disclosed in *Erreygers* with the scalable transceivers disclosed in *Liu* and the DSL repeater system of *McGhee*, Applicants respectfully submit that the proposed *Erreygers-Liu-McGhee* combination is improper and should not be used here to reject Applicants' claims.

For at least these reasons Applicants respectfully request reconsideration and allowance of Claims 9-10 and 26.

CONCLUSION

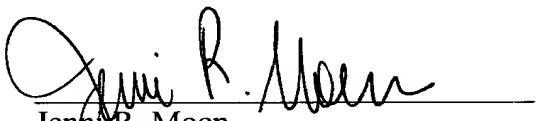
Applicants have made an earnest attempt to place this case in condition for allowance. For the foregoing reasons, and for other reasons clearly apparent, Applicants respectfully request full allowance of all pending claims.

If the Examiner feels that a telephone conference would advance prosecution of this Application in any manner, the Examiner is invited to contact Jenni R. Moen, Attorney for Applicants, at the Examiner's convenience at (214) 953-6809.

Applicants believe that no fee is due, however, the Commissioner is hereby authorized to charge any fees or credit any overpayments to Deposit Account No. 02-0384 of Baker Botts L.L.P.

Respectfully submitted,

BAKER BOTTS L.L.P.
Attorneys for Applicants



Jenni R. Moen
Reg. No. 52,038

Date: August 22, 2005

Correspondence Address:

at Customer No. **05073**